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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,251	12/15/2003	Nobuo Sasaki	1071.1051	8952

21171 7590 09/10/2004

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EXAMINER	
PERRY, ANTHONY T	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,251	SASAKI, NOBUO	
	Examiner	Art Unit	
	Anthony T Perry	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1,3,12 and 16-18* is/are rejected.

7)☒ Claim(s) *2,4-11 and 13-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/6/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 2 and 4-11 are objected to because of the following informalities:

Claims 2, 4, and 8 state that the stoppers prevent the solutions from entering the grooves, but the specification and drawings teach that the solutions enter the grooves but are prevented from filling the entire length of the grooves.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 and 17 rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al. (WO98/24271).

Regarding claim 1, the Miyashita reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves in an insulation film (105) on a substrate (104) and filling said grooves with a solution that contains an organic EL element material is dissolved (see the abstract and Fig. 4). The solution is dried in order to remove the solvent, leaving the luminescent layers (106,107,108).

Regarding claim 17, the Miyashita reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves in an insulation film (105) on a

substrate (104) and filling said grooves with a solution in which a material that becomes a buffer layer (120) between an organic layer (106,107,108) and an electrode (101,102,103) is dissolved (see the abstract and Fig. 4). The solution is dried in order to remove the solvent, leaving the buffer layer (120).

Claims 12 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Urabe et al. (US 6,614,174).

Regarding claims 12 and 16, Urabe discloses an organic EL device comprising a substrate (1), a first insulating film (50) formed on the substrate (1), a first electrode (A) formed on insulating film (50), a second insulating film (15) formed on the first insulating film (50) having grooves provided at a position corresponding to the first electrode (A) (see Fig. 1). An organic layer (10) comprising a buffer layer (102) and an organic EL layer (103) is formed in the grooves with one surface electrically connected to the first electrode (A) and a second surface electrically connected to a second electrode (K) (see Fig. 3c). The buffer layer (102) is formed between the first electrode (A) and the organic EL layer (103).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al. (WO98/24271) in view of Biebuyck et al. (US 5,855,994).

Regarding claim 3, Miyashita teaches a method of manufacturing an organic EL device comprising the steps of forming a first and second grooves in an insulating film (105) on a substrate (104) (see Fig. 4 and abstract). Miyashita does not specifically teach the grooves having positions of their one edge portions being shifted from each other.

Biebuyck teaches a device where first and second grooves (54,53) are formed in an insulating film that has their one end portions and their other edge portions shifted from each other (see Fig. 7A). The one edge portion of the second groove (53) is immersed in a first solution (70) in the state where the first groove (54) is apart from the first solution. The second groove (53) is filled with the first solution (70) (see Fig. 7B). The one edge portion of the first groove (54) is immersed in a first solution in the state where the second groove (53) is apart from the second solution (71). The first groove (54) is filled with the second solution (71) (see Fig. 7C).

Such a capillary method as taught by Biebuyck is a more efficient way of filling separate sets of first and second grooves than using an inkjet printer. The capillary method allows for each of the first grooves to be filled at the same time in the same manufacturing step. It also does not require expensive equipment such as the inkjet printer of Miyashita. Accordingly, one of ordinary skill in the art, at the time the invention was made, would have found it obvious to form the grooves having positions of their one edge portions being shifted from each other so

that a cheaper and more efficient method (capillary method) of filling the grooves with different color EL layers can be performed.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al. (WO98/24271) in view of Kuznetzoff (US 4,270,823).

Regarding claim 18, the Miyashita reference teaches a method of manufacturing an organic EL device comprising the step of forming grooves in an insulating film (105) on a substrate (104) (see fig. 4). Miyashita does not specifically teach the steps of filling the grooves with a solution in which a material that becomes an electrode is dissolved and then drying the solution.

Kuznetzoff teaches a step of filling grooves with a solution in which a material that becomes an electrode (98) is dissolved, wherein the solution is dried to remove the solvent (92), leaving an electrode layer (98) (see figs. 2-4). Such a method is a more efficient way of forming the electrodes, in that the method does not require the use of expensive masks nor does it require subsequent steps of etching the electrode layer into a desired pattern. It would have been obvious at the time the invention was made to a person having ordinary skills in the art to make the grooves in the insulating layer, of the Miyashita reference, before depositing the electrode so that a solution containing the electrode material can be filled into the grooves and then dried, since such a method, as taught by Kuznetzoff, is a more efficient and cost effective approach than typical electrode deposition and patterning.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2, 4, and 8, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of forming stoppers that prevent the solutions from filling the entire groove and then removing the stoppers.

Regarding claims 5-7 and 9-11, claims 5-7 and 9-11 are allowable for the reasons given in claims 2, 4, and 8 because of their dependency status from claims 4 and 8.

Claims 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 13, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the pixels being made up of plural sets of grooves wherein each set of grooves is formed of different colors. The prior art teaches pixels made up of plural grooves wherein each groove is filled with a different color, but not plural sets of grooves per pixel.

Regarding claims 14-15, claims 14-15 are allowable for the reasons given in claim 13 because of their dependency status from claim 13.

Contact Information

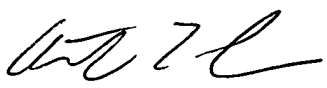
Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is **(571) 272-2459**. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-24597. **The fax phone number for this Group is (703) 872-9306.**

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [Anthony.perry@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Anthony Perry
Patent Examiner
Art Unit 2879
September 2, 2004

Vip Patel
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